

REMARKS

This application has been carefully reviewed in light of the Office Action dated June 6, 2003. Claims 1 to 26 are now pending in the application, with Claims 23 to 26 having been added, and Claims 1 to 22 having been amended. Claims 1, 7, 13, 23, 24 and 26 are the independent claims herein. Reconsideration and further examination are respectfully requested.

Claims 1 to 22 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,330,600 (Matchefts) in view of U.S. Patent No. 6,470,385 (Nakashima). Reconsideration and withdrawal of the rejections are respectfully requested.

The present invention concerns management of devices on a network. Conventionally, devices may be managed on a network by a managing device periodically broadcasting polling packets to query the network for new devices, or devices whose configuration may have changed. One problem with such a system is that the network traffic is significantly increased by the polling packets. Another problem is that the managing device is only as up to date as the last responses received to the latest polling packet. That is, there may be a lag time between when a new device is activated on the network and the time that the managing device polls the network so as to be able to update the network configuration.

The present invention addresses the foregoing by listening for network managing packets broadcast by devices when they are activated, rather than polling the network. According to the invention, a managing device receives a packet which is broadcast from a device on the network when the device is activated. The managing device determines whether the received packet is a network managing packet, and if so, acquires from the packet an address of the device that transmitted the packet. The

managing device then registers the acquired device address, possibly to an external apparatus or a server. As a result, the network managing device does not need to periodically broadcast polling packets to inquire of devices connected to the network, but instead, simply listens for packets broadcast by the devices themselves when the devices are activated. Accordingly, network traffic is reduced by eliminating the need for the managing device to initiate query broadcasts. Additionally, real-time updates are performed since the device broadcasts the packet when it is activated.

With specific reference to the claims, amended independent Claim 1 is a network device managing apparatus for managing a network to which a device which broadcasts a network managing packet at least once after activation is connected, comprising packet receiving means for receiving a packet which is broadcast from the device when the device is activated, packet determining means for determining whether the packet received by the packet receiving means is a network managing packet, device address acquiring means for acquiring from the packet an address of the device which has transmitted the packet, if the packet determining means determines that the packet is a network managing packet, and device address registering means for registering the device address acquired by the device address acquiring means.

Amended independent Claims 7 and 13 are system and method claims, respectively, that substantially correspond to Claim 1. In addition, newly-added Claim 24 includes features substantially similar to Claim 1, but includes the feature of registering the acquired address to an external managing apparatus.

Newly-added independent Claim 23 includes features along the lines of Claim 1 and specifically is a network device managing apparatus for managing a network to which a device which broadcasts a network managing packet at least one after activation

is connected, comprising a network interface board, and a trap monitor for (i) receiving, via the network interface board, a packet which is broadcast from the device when the device is activated, (ii) determining whether the packet received by the network interface board is a network managing packet, (iii) acquiring from the packet the address of the device which has transmitted the packet if it is determined that the packet is a network managing packet, and (iv) registering the acquired device address.

Newly-added independent Claim 26 is along the lines of Claim 23, but includes the feature of registering the acquired address to an external managing apparatus.

The applied art, alone or in combination, is not seen to disclose or to suggest the features of Claims 1, 7, 13, 23, 24 and 26. In particular, the applied art is not seen to disclose or to suggest at least the feature of receiving a packet which is broadcast from a device when the device is activated, and registering an address of the device acquired from the packet if it is determined that the packet is a network managing packet.

The Office Action admits that Matchefts fails to disclose acquiring an address from a received packet and registering the acquired address. Moreover, while Matchefts may receive a packet, the packet is not one which is broadcast by a device when the device is activated, but rather, is one which is provided to the apparatus in response to a polling query. Accordingly, Matchefts suffers from the same problems as described above in that the managing apparatus initiates the polling process by broadcasting polling packets over the network.

Nakashima is not seen to remedy the foregoing deficiencies of Matchefts. In this regard, the Office Action alleges that Nakashima “discloses extracting [an] identifier from a received message (s70, Fig. 17) and registers it (s74, Fig. 17).” However, the identifier of the message in Nakashima is not an address of a device which sent the packet,

but rather is merely an identifier of the message (packet) which is used to determine whether a packet is lost. That is, the identifier of the received packet is compared with an identifier of a stored packet in a management table to determine whether a packet is lost. Accordingly, the message identifier of Nakashima is not seen to be an address of the device that transmitted the packet.


Moreover, in the present invention, the address is acquired from the received packet if it is determined that the received packet is a network managing packet. In contrast, the packet identifiers of packets received in Nakashima are extracted and compared regardless of any determination as to the type of packet. In other words, there is no determination in Nakashima as to whether the packet is a network managing packet, and if so, acquiring the address of the device that transmitted the packet, much less registering the acquired address.

Thus, neither Matchefts or Nakashima, alone or in any permissible combination, are seen to disclose or to suggest the foregoing features of Claims 1, 7, 13, 23, 24 and 26.

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

Applicant's undersigned attorney may be reached in our Costa Mesa,
California office at (714) 540-8700. All correspondence should continue to be directed to
our below-listed address.

Respectfully submitted,



Attorney for Applicant

Registration No. 42,746

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-2200
Facsimile: (212) 218-2200

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